IN THE SPECIFICATION

On page 1, please replace the "Cross Reference to Related Applications" paragraph (lines 4-8) with the following paragraph:

This application is a continuation application of U.S. Application Serial No. 10/052,005, filed January 17, 2002, which is a continuation of U.S. patent application Ser. No. 09/406,293, filed on Sep. 24, 1999, which is a divisional of U.S. patent application Ser. No. 08/825,559, filed on Mar. 19, 1997, now U.S. Pat. No. 6,107,073, which, in turn, is a continuation-in-part of U.S. patent application Ser. No. 08/616,499, filed on Mar. 19, 1996, all of which are hereby incorporated herein by reference in their entirety.

Please replace the paragraph at page 6, beginning on line 4, with the following paragraph:

Signal-induced activation of the transcription factor NF-κB requires specific phosphorylation of the inhibitor IκBα (SEQ ID NO:9) and its subsequent proteolytic degradation. Phosphorylation of serine residues 32 and 36 targets IκBα to the ubiquitin-proteasome pathway. The present invention provides a substantially purified large, multi-subunit kinase (MW ~700 kDa) that, in its active state, phosphorylates IκBα at serines 32 and 36. Preferably, the kinase comprises an amino acid sequence which is at least 60% homologous to the amino acid sequence of any one of Figures 21A-D. Remarkably, this kinase may be activated by a ubiquitination event requiring the ubiquitin activating enzyme (E1), a specific ubiquitin carrier protein (E2) of the UBC4/UBC5 family, and ubiquitin. Thus, in this case, ubiquitination serves a novel regulatory function that does not involve proteolysis. Alternatively, the kinase may be activated via phosphorylation by MEKK-1. Additional activation routes, e.g. phosphorylation by a kinase other than MEKK-1, may also be possible.

Please replace the paragraph at page 19, beginning on line 10, with the following paragraph:

The present invention relates to a purified kinase which, in its activated state, is capable of site-specific phosphorylation of IκBα (SEQ ID NO:9); subunits thereof; and functional derivatives thereof. More specifically, the kinase is capable of activation by ubiquitination or via phosphorylation by MEKK1.

Please replace the paragraph at page 106, beginning on line 3, with the following paragraph:

An N-terminal fragment (residues 5-72) of IκBα was expressed in *E. coli* as a recombinant protein containing a poly-histidine (His6) tag at the N-terminus. Protein purification was accomplished by nickel affinity chromatography. As a control, the full-length IκBα (SEQ ID NO:9; Haskill (1991) *Cell* 65:1281) was also expressed and purified in a similar fashion.